Strength Training Effectiveness in Normal Weight Type 2 Diabetics

Rionna Octaviano*, Navneeth Gurachar*, Amogh Patankar, Alice Guan, George A. Hung, Nicholas Kikuta, Malathi Srinivasan, Adrian M. Bacong, Robert J. Huang, Gloria S. Kim, Latha P. Palaniappan, Jin Long

Stanford MEDICINE | Center for Asian Health Research and Education

Background and Objective

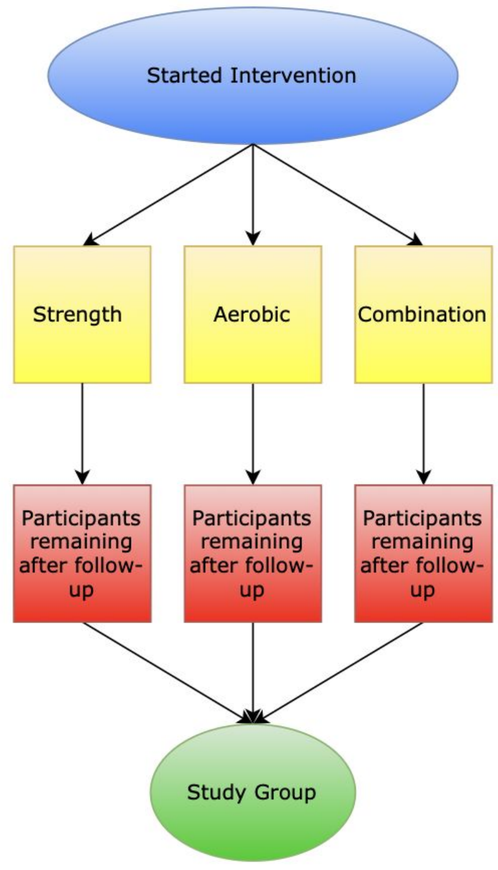
•The emphasis on aerobic exercise may not be appropriate for NWD due to their already acceptable body mass index (BMI)
•There remains a gap in the literature regarding the effectiveness of different exercise regimens for NWD in disaggregated Asian American groups

Objective:

- Study results from a randomized controlled trial to determine which training style is most optimal for East and South Asians.

Methods

- Analyzed data from a randomized controlled trial enrolling individuals with NWD.
- The primary outcome was absolute change in HbA1c.



Discussion and Future Work

Discussion

- For East Asians, strength training was superior to aerobic and combination training, consistent with results from the StrongD study
- No significant differences were observed for South Asians
- This project underlines the significance of personalized fitness strategies for lowering HbA1c levels in NWD.
- Further research is needed with regard to diabetes treatment of South-East Asians and Pacific Islanders.

Table 1: Changes in HbA1c and Body Composition in East Asians

Characteristics	Strength	Aerobic	Combination
HbA1c (mmol/mol)	-4.63 (-8.11, -1.16)	-6.53 (-10.05, -3.02)	-1.42 (-4.72, 1.87)
HBA1c (%)	-0.42 (-.742, -.11)	-0.60 (-.92 -.28)	-0.13 (-.43, .17)
Lean Body Mass (kg)	0.58 (-0.16, 1.33)	0.20 (-0.57, 0.97)	-0.42 (-1.18, 0.35)
Fat Body Mass (kg)	-1.03 (-1.94, -0.12)	-0.96 (-1.73, -0.20)	-0.91 (-1.92, 0.10)

Table 2: Changes in HbA1c and Body Composition in South Asians

Characteristics	Strength	Aerobic	Combination
HbA1c (mmol/mol)	-3.94 (-9.06, 1.19)	2.82 (-2.91, 8.55)	-4.55 (-10.56, 1.46)
HBA1c (%)	-0.36 (-.83, .11)	.026 (-.27, .78)	-0.42 (-.97, .13)
Lean Body Mass (kg)	-0.11 (-0.78, 0.57)	-0.91 (-2.39, 0.58)	-0.01 (-1.12, 1.105)
Fat Body Mass (kg)	-1.56 (-2.98, -0.13)	-0.24 (-1.31, 0.83)	0.3 (-1.27, 1.88)

Figure 1: Exercise Group Effects on HbA1C in East Asians

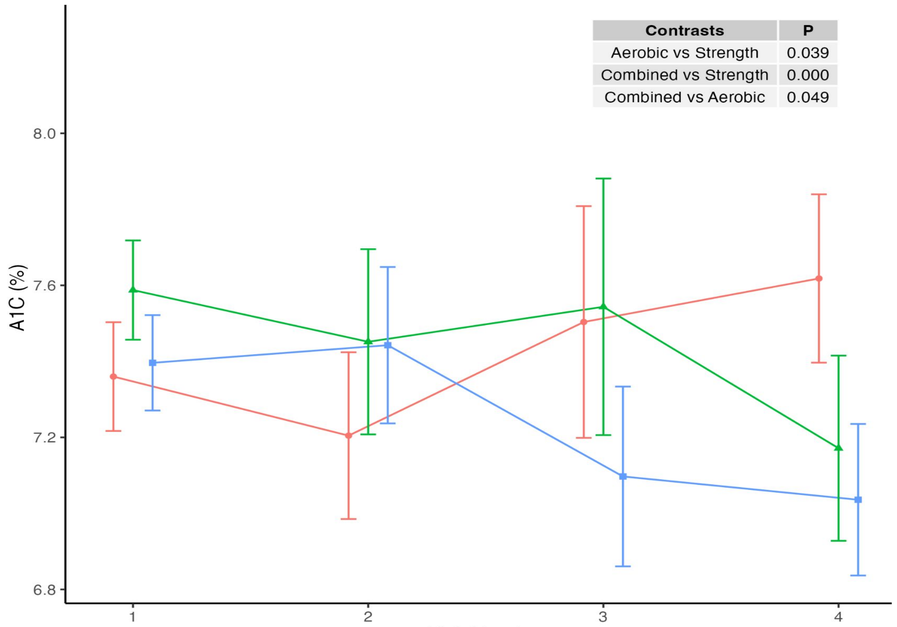


Figure 2: Exercise Group Effects on HbA1C in South Asians